UNITED
NATIONS

A

General Assembly

Distr.
GENERAL

A/CN.10/155
29 April 1991

ORIGINAL: ENGLISH

DISARMAMENT COMMISSION
1991 substantive session
New York, 22 April-13 May 1991
Agenda item 7

ROLE OF SCIENCE AND TECHNOLOGY IN THE CONTEXT OF INTERNATIONAL SECURITY, DISARMAMENT AND OTHER RELATED FIELDS

Science and technology for disarmament

Working paper submitted by the Netherlands*

1. The wording used in the title of agenda item 7 places science and technology in a very broad context. Notwithstanding the merits of a wide-ranging consideration of all these aspects, the Twelve believe that, in considering the disarmament-related applications of science and technology, Working Group IV of the United Nations Disarmament Commission will identify the most easily accessible areas of consensus as well as avenues leading to practical results.

2. United Nations General Assembly resolution 45/61, adopted by consensus on 4 December 1990, calls upon Member States and relevant intergovernmental organizations to intensify and extend activities to use scientific and technological achievements for disarmament-related purposes. By submitting the present working paper, the Twelve wish to contribute to follow-up action by the United Nations Disarmament Commission which, during the current session, for the first time has the opportunity to elaborate on resolution 45/61.

3. In approaching the specific questions before the Commission, it is useful to recall first some basic considerations:

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* On behalf of the 12 States members of the European Community.

(a) The pursuit of scientific and technological development in itself is a neutral process; only the uses to which the products of science and technology are put are negative or positive;

(b) Given the provisions contained in chapter VII of the Charter of the United Nations, including the inherent right of self-defence, military applications of science and technology are not necessarily negative;

(c) Some of the most obvious examples of the positive potential of science and technology lie in their application to disarmament-related purposes:

(i) Scientific and technological developments can contribute to confidence-building by providing the means to achieve greater transparency in military matters;

(ii) They have a major role to play in the implementation of arms control and disarmament agreements, e.g. by providing arms disposal techniques that are safe, transparent, cost-effective and environmentally sound;

(iii) They can substantially enhance the possibilities for unilateral or cooperative verification of compliance with arms control and disarmament agreements;

(iv) They might positively influence processes of conversion of the military industry into civilian production.

4. Some examples and suggestions for scientific and technological applications in the arms control and disarmament fields are:

(a) The use of modern technology in verifying compliance in accordance with the specific verification provisions of each agreement;

(b) The possibility of establishing a global seismological network as one of the means to monitor nuclear explosions (seismological verification, Geneva Group of Experts);

(c) Seismic sensors to identify movements of heavy conventional equipment in certain areas;

(d) Chemical weapon verification, e.g. use of the mass spectrometer as well as other analytical equipment for detecting chemical weapon development, production, stockpiling and use, in particular in the course of on-site inspections under a chemical weapon convention;

(e) Special non-removable tags to mark and identify equipment that is subject to arms control;

(f) Satellite monitoring of relevant equipment and forces;

(g) Open skies project: open skies would supplement both national technical means for data collection, as well as data exchange and verification rules as laid down in arms control agreements. The quality of sensor packages would be determined by their composition and performance data. Possible technical means could be framing optical cameras; panoramic optical cameras; electro-optical systems; infrared sensors; infrared linescanner and synthetic aperture radar;

It is hoped that other examples will be provided by the United Nations Institute for Disarmament Research study on new technical means for the verification of arms control, which is currently under preparation.

5. The Twelve are confident that Working Group IV of the 1991 session of the Disarmament Commission will succeed in exploring collectively further avenues of international cooperation in the use of scientific and technological achievements for disarmament-related purposes. The fruitful results of the United Nations Conference on New Trends in Science and Technology: Implications for International Peace and Security, held at Sendai, Japan, in April 1990, and of the United Nations Conference on Conversion: Economic Adjustments in an Fra of Arms Reductions, held in Moscow in August 1990, may guide us in tackling this subject.